

REMARKS

Reconsideration of the application is requested.

Claims 9-12 are now in the application. Claims 9-12 are subject to examination. Claim 9 has been amended. Claims 13-16 have been canceled to facilitate prosecution of this application.

Under the heading "Drawings" on page 2 of the above-identified Office Action, the drawings are objected to as failing to comply with 37 CFR 1.84(p)(5).

The Examiner stated that reference character 9b in Fig. 3 does not appear in the specification. Rather than change Fig. 3, reference character 9c has been changed to 9b in the translated specification.

Under the heading "Claim Rejections – 35 USC § 102" on page 3 of the above-identified Office Action, claims 9-14 and 16 have been rejected as being fully anticipated by Swedish Patent Publication No. SE 7 502 136 to Facit under 35 U.S.C. § 102.

The limitations of claims 13-16 have been added to claim 9.

The Examiner has alleged that Fig. 2 of SE 7 502 136 discloses the claimed invention. Fig. 2 of SE 7 502 136 merely shows three components identified

with reference numerals 14 and 16. One of ordinary skill in the art cannot ascertain the manner in which elements 14 and 16 interact with each other. It is not even clear that Fig. 2 shows a linear drive. Applicants assert that one of ordinary skill in the art cannot ascertain the features defined in claim 9 by referring to Fig.2 of SE 7 502 136.

Under the heading "Claim Rejections – 35 USC § 103" on page 4 of the above-identified Office Action, claim 15 has been rejected as being obvious over Swedish Patent Publication No. SE 7 502 136 to Facit in view of Published British Patent Application No. GB 2 077 045 to Franklin under 35 U.S.C. § 103.

Claim 9 now specifies that the steps have second sections, on which an intermediate space is formed between said surfaces of said stator and said armature when said stator and said armature are in the given position with respect to one another.

SE 7 502 136 does not teach steps having second sections, on which an intermediate space is formed between said surfaces of said stator and said armature when said stator and said armature are in the given position with respect to one another. The Examiner has recognized this fact, however, the Examiner has alleged that GB 2 077 045 would have suggested such a modification to the device taught in SE 7 502 136.

First, applicants assert that SE 7 502 136 does not teach the features of claim 9 that have been alleged by the Examiner as has been discussed above.

Second, applicants assert that even if SE 7 502 136 did teach the features that have been alleged by the Examiner, the invention as defined by claim 9 would not have been suggested by SE 7 502 136 and GB 2 077 045. Applicants believe that this is clearly the case since GB 2 077 045 also does not teach the features of claim 9 that have been referenced above. The teaching of GB 2 077 045 is discussed below.

With regard to the teaching in GB 2 077 045, the opposing surfaces of the stator and the armature of the device taught therein are formed in steps as can be seen by referring to Fig. 5 and to page 3, lines 42-47 thereof. Fig. 5 shows the slider surfaces 40, 41 that are arranged at the armature or the stator, respectively. The armature and the stator support one another via the slider surfaces and steer the movement of the armature. In order to ensure the guidance of the armature, the slider surfaces extend in the direction of the possible relative movement between the armature and the stator. On one hand, frictional losses are caused by the sliding stator and armature. On the other hand, the travel cannot be increased beyond the slider surfaces since the guidance of the armature would no longer occur if the slider surfaces were separated from one another. The loss of guidance renders the steering of the armature impossible and the effectiveness of the configuration is impaired. Correspondingly, a middle fixed section of the armature limits a movement of the moveable section of the armature. Thus, the armature is only moveable

between two stops in the known construction (stator, middle section of the armature) so that the slider surfaces always remain engaged.

GB 2 077 045 teaches that the surfaces of the armature and the stator permanently touch each other. Contrary thereto, the invention as defined by claim 9 defines an air gap between the armature and stator. Specifically the air gap renders it possible to guide the magnetic flux to a sufficient degree, even at larger distances between the stator and armature. Thus, the claimed electromagnetic linear drive can perform an increased contact travel. In this case, the magnetic flux is guided above the first sections, which are arranged essentially perpendicularly with respect to the direction of the relative movement. This makes it possible to provide a bundling of the magnetic flux in these first sections even at a larger distance between the stator and the armature and to generate a sufficient force effect.

In the event that the stator and the armature approach each other, the magnetic flux becomes increasingly concentrated in the first sections so that an improved force effect can be made available for producing a relative movement between the armature and the stator. When the first sections touch, a high holding force of the armature can be produced at the stator. A disturbing steering of the magnetic flux, which would be caused by touching slider surfaces as occurs in GB 2 077 045, is avoided by keeping the stator and armature at a distance from one another. This produces an improved force effect.

Since GB 2 077 045 teach that the sections of the steps extending in the direction of movement are designed as slider surfaces that permanently contact each other, applicant believes that the teaching of GB 2 077 045 in combination with that of SE 7 502 136 could not have suggested the electromagnetic linear drive having the features of claim 9.

GB 2 077 045 teaches that the armature and the stator must always remain in physical contact with one another via sections of the stepped surfaces, which sections lie in the direction of movement. Therefore, applicant believes that there is no teaching or suggestion to modify the device known from GB 2 077 045 to use air gaps instead of the slider surfaces taught therein.

One of ordinary skill in the art is motivated away from such a refinement in knowledge of GB 2 077 045 since the slider surfaces are indispensable for guiding the armature. Therefore, applicant believes that an electromagnetic linear drive having the features of claim 9 would not have been rendered obvious by considering the teachings in SE 7 502 136 and GB 2 077 045.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claim 9. Claim 9 is, therefore, believed to be patentable over the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on claim 9.

In view of the foregoing, reconsideration and allowance of claims 9-12 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out.

Please charge any fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner Greenberg Stermer LLP, No. 12-1099.

Respectfully submitted,

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